

## THE SAVAGE GARDEN: “THE LEGACY OF PAUL ZAHL”

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Half a century later, the photograph is still an engrossing, eye-filling sight: a Kennedy-era All-American family—a middle-aged Dad with horn-rimmed glasses and pipe, a lip-sticked Mom of fashion-model beauty, and two adorable children, a girl of eleven years of age in a skirt and a boy of eight wearing a polo shirt.

They are all crouched or kneeling on their Washington D.C. patio. A large opened cardboard box marked “Fragile”, two dozen sealed plastic bags, a hose, a watering can, and garden tools lie about, and a sizeable screen-topped outdoor terrarium is in the background. There are clods of soil being removed from the bags. The mother is handing one to the father, who holds a trowel. It contains a purple pitcher plant, complete with seed pod. Other lumps of soil sitting on the patio show more pitcher plants and rosettes of Venus flytraps. The little boy is pointing to one as his sister looks on. The caption explains that a fly is buzzing dangerously close to a flytrap, fascinating the children.

This was the Zahl family: Dr. Paul Arthur Zahl, his lovely wife Eda, and their two children, Eda Kristin and Paul, Jr. This photograph—and many others—graced the pages of the May, 1961 issue of the National Geographic Magazine, in Paul A. Zahl’s legendary article “Plants That Eat Insects.” It was probably the single greatest event in the middle part of the last century that would trigger the later slow-motion explosion of interest in carnivorous plants (CP) all over the world. I know this because it catapulted me as it did many others in the 1960s and early 1970s, when popular literature on the plants was seriously lacking.

The National Geographic Society, begun in 1888, needs no introduction. Most famous for its colorful and educational magazine that is found in many homes, libraries, and dental waiting offices, they also are known for their popular museum and headquarters in Washington D.C., and for hosting educational exhibits and expeditions around the world. More recently their extensive website ([www.nationalgeographic.com](http://www.nationalgeographic.com)) and even a cable television station have become part of our modern lives. Go to flea markets or antique stores, and often stacks and shelves of their nostalgic magazines can be found in great numbers.

Paul A. Zahl was born in Bensenville, Illinois in 1910. He was an honors graduate of North Central College in that state, then received his doctorate in experimental biology from Harvard University in 1936, and immediately became notable in cancer research at Haskins Laboratories.

However, he became increasingly interested in natural history and wrote his first book “To the Lost World” in 1939. This was about a trip he took to Mt. Roraima in Venezuela. I have not been able to get a copy of this book, but no doubt Zahl saw *Heliamphora* and other carnivorous plants there. He wrote few books during his long career: “Blindness: Modern Approaches to the Unseen Environment” (1950), “Flamingo Hunt” (1952), and “Coro-Coro: World of the Scarlet Ibis” (1956). Also during this period he did research at New York’s Museum of Natural History.

In the 1950s, Zahl concentrated on his writing and photography career with National Geographic. He was senior scientist of natural history for the society from 1958 to 1975. His 1954 article for the magazine, “In the Wilds of a City Parlor”, was a very popular piece on how, in their New York City apartment, he and his wife Eda maintained various aquariums and terrariums, re-creating habitats for fish, insects, amphibians and reptiles—including a terrarium of carnivorous plants. This article had an enormous influence on the popularity of exotic creatures as pets.



Figure 1: Paul Zahl and family create a terrarium (from left, Eda Kristin, Mrs. Eda Zahl, Dr. Paul Arthur Zahl, Paul F. M. Zahl). Photo from the Paul Zahl collection.

In fact, his 1959 article, “Little Horses of the Sea”, caused me, a decade later, to raise seahorses throughout high school. Zahl’s engaging writing style, beautiful photography, and family-oriented story telling was enough to get many readers hooked on such hobbies.

Paul Zahl wrote more articles for National Geographic than anyone else in its long history, over fifty articles from 1946 to 1976. He always chose his subject matter and was never assigned them, and all the photography was taken by him. He wrote about coral reefs and volcanoes, giant frogs, scorpions, man-of-war jellyfish, piranhas, hatchetfish, butterflies, and slime molds (“The fungus That Walks”). He discovered the tallest redwood tree known at the time in the mid-sixties, which made the magazine’s cover.

At least sixteen of the articles included the entire Zahl family as they went off on adventurous vacations exploring the natural world. Up until 1959, the covers of the magazine had the famous yellow border and the black-on-white table of contents, but no photography. When photos were added, Mrs. Zahl was the first human being to grace the cover of the magazine—even diving apparatus couldn’t hide her good looks and she became known as the “playgirl of National Geographic”.

Zahl wrote prolifically. His articles also appeared in Atlantic Magazine, Scientific American, Scientific Monthly, and in the 1960s he wrote a column for The American Scholar. He won many awards for photography and some of his work is on permanent display in New York’s Museum of Modern Art. One can also find his photos for sale on Art.com, including some famously recognizable, like a close-up of a gorilla’s face, and of tree frogs.

A full page close-up photo of a bright red, gaping trap of *Dionaea muscipula*, with a housefly entering it, opens Zahl’s article “Plants That Eat Insects”. The article begins with the Zahl family receiving a large shipment of plants and “acid soil” from the Carolina Biological Supply Company, an enormous supplier of all things scientific that is still in existence today. The family constructs a dog-house sized outdoor bog garden “conservatory” on their sunny patio and two smaller terrariums to house their carnivorous menagerie (see Figure 1).

Zahl then gives a rather good rundown on Venus flytraps, from their discovery by governor Arthur Dobbs in 1760 North Carolina to Charles Darwin's studies of the plant. He speaks of the enigma of the trap's mechanism and the electrical activity discovered. Most enlightening to wannabe hobbyists of that decade (like me at age twelve or so!) was information on the plant's habitat and the fact that the species survives freezes in winter, and the importance of fires to the plants' survival in the wild. Photographs of a germinating seedling and a large plant being fed a fly with tweezers are highlights.

One iconoclastic photo shows young Eda Kristin hand-feeding a bug to a terrarium grown plant (see Figure 2). In 1961 little girls were expected to scream and cringe at the mere sight of a leggy insect—but not in the Zahl family!

Next, Zahl visits The Carolina Biological Supply Company and is accompanied by director of culture, Bill Pendergrass, on a field trip. It is explained that Venus flytraps were protected under North Carolina law, but the company was issued collecting permits to allow them to fill orders from “every State in the Union”, mostly to schools.

While hunting flytraps in the wet savannahs near Wilmington, fruitlessly at first, they come upon an “unexpected prize. Here the ground glistened with hundreds of tiny jewel-like clusters”—sundews! A full page close-up of a sundew leaf, its tentacles glittering in the light with globs of lethal glue, was the first of its kind in any popular literature. The leaf was of *Drosera intermedia* but misidentified as *D. rotundifolia*. Another memorable photo was of several tiny *D. capillaris*, on black peat, with a dime for size comparison. Zahl continues by explaining the life-style of sundews and his experiments and photos back at home feeding the plants fruit flies.

Zahl takes his family on a return field trip to the Green Swamp. This time they hunt out *Sarracenia* pitcher plants. Colorful photographs take up three-quarters of the pages. Little Eda and her mom peer down the tubes of *S. flava*. Mrs. Zahl holds back the collar of *S. purpurea* to peak inside. A full page photo of the interior of the pitcher, complete with trapped insects. A startling close-up of a black ant negotiating the treacherous white spines on the blood red background of the leaf—all were haunting images.

Later, on a trip to California, the family visits *Darlingtonia*, the cobra plants. Lovely Mrs. Zahl holds open a cut pitcher to show captured insects, with a clear blue sky and snow-capped Mt. Shasta in the distance. She also examines a thick stand of cobras on a wet slope.

Zahl concludes the story with a bit of humor, talking of the old Man-Eating-Tree of Madagascar. He asks that if anyone encounters such a specimen, he would gladly make room for it in his “already overcrowded garden of carnivores.”

Paul Zahl's next article that featured carnivorous plants appeared in the May, 1964 issue. “Malaysia's Giant Flowers and Insect-trapping Plants” told of his nine-week journey to places like Sar-



Figure 2: Eda Kristin today, holding the 1961 article by her father in National Geographic. Photo by Mrs. Eda Zahl.

awak and Sabah in north Borneo, in search of giant *Rafflesia* flowers and *Nepenthes*. With much humor he discusses various topics from headhunting to battling onslaughts of leaches as he searches for the plants with native guides and a 19-year-old American Peace Corpsman named Jim Brock. Zahl's family did not accompany him on this expedition. Too dangerous.

Again, this was the first feature to popularize *Nepenthes* since the old gardening magazines of the 19<sup>th</sup> century. Zahl's photos of *N. villosa*, *lowii*, *ampullaria*, *gracilis*, *veitchii*, and *sanguinea* were other-worldly. He described their high elevation habitats as "eerie" and "bewitched".

Informative to say the least, much is discussed about *Nepenthes*, from their intoxicating influence on insect prey to the numerous creatures that live unharmed in the pitchers, like certain tadpoles and red crab spiders. A couple of things made this article most noteworthy. One was that these tropical highland plants lived where the climate at 6,500 feet was not only humid but "sharply cool." Observations like these helped growers cultivate the plants over a decade later as the CP hobby began its modern era.

A second thing was that Zahl introduced to the west a common name for the plants, used by the locals: monkey cups. This term was picked up by Britain's Adrian Slack in his two books that appeared in the late 1970s and early '80s. This term of "monkey cups" has even been applied by locals to native pitcher plants of New Jersey, no doubt influenced by Zahl's article. One person from my home town in that state claimed his grandfather called *S. purpurea* "monkey cups" and his grandfather subscribed to National Geographic in the 1960s. In his article, Zahl photographed an orangutan sipping the liquid of an upper pitcher of *N. rafflesiana*.

With the help of my staff at California Carnivores, I found Paul Zahl's daughter, Eda Kristin, and gave her a phone call. There are two words I can use to describe this articulate, enthusiastic young woman now in her early 60s: "She's swell!" When we first spoke, she was just leaving her southern California home to visit her mother, now 84, in Connecticut. I had a few very informative and exciting conversations with her, including one with a rather vivid and energetic Mrs. Zahl, a humbling experience!

Paul Zahl met Eda Seasongood Field through Paul's brother Harold. Harold Zahl was also famous. He was the inventor of the "Zahl tube", that allowed planes to be detected under radar, which changed the course of World War II. The Zahl brothers – and their siblings – were the offspring of a Lutheran minister. Eda Field was a Christian Scientist and later raised her two children under that religion. "Our upbringing was a combination of spiritual and scientific beliefs," Eda Kristin explained. They lived in New York and later Washington D.C.

"Did your family have any normal pets like cats or dogs?" I asked. "No, never!" Eda laughed. Just scorpions, seahorses, and Venus flytraps. Eda Kristin recalled an exciting childhood. She was never teased about gracing the photographs of National Geographic and teachers always excused her and her brother from school to join their parents on various expeditions and trips.

She had happy memories of how photos for the magazine were chosen. The family would gather in their darkened living room and go through hundreds of slides her father took, choosing three possible shots for each photo planned in every article. Mr. Zahl would then consult with his editors in choosing the final photos.

"But it was my mother who was his full partner. She edited all of his work, including the photography."

The Zahl children went in two opposite directions as they grew up.

Eda's brother, Paul F. M. Zahl, was valedictorian of his class at St. Alban's school, an elementary through high all-boys school popular among Washington's political families. (Al Gore and many other recognizable names went there.) In high school he found his calling. He graduated from Harvard, then attended the Harvard Divinity School, and became an Episcopal minister.

And a famous one at that. Paul Jr., highly respected and at times rather controversial for his more conservative leanings in an otherwise liberal denomination, has written or co-authored many books,

most dealing with church history and politics, as well as inspirational. Among his best known are “Five Women of the English Reformation”, “The First Christian: Universal Truth in the Teachings of Jesus”, and “Grace in Practice: A Theology of Everyday Life.” He is married and has three sons.

On the other hand, this is the opening line of Eda Kristin’s first novel called *Fluffy Butch*: “Mary learned to love men when she started dating women.”

Eda Kristin went to Bennington College in Vermont and majored in literature. She moved to New York and had a successful acting career during the 1970s, co-starring with famous actors like Jason Robards and Maureen Stapleton in plays by Clifford Odets and Neil Simon. She moved to Los Angeles, a city she loves, and had guest roles on TV shows like “Roseanne”, “Dallas”, “Knot’s Landing”, and “Eight Is Enough”. For several years Eda also worked for a production company that made movies like “Hoosiers”.

That first novel, *Fluffy Butch*, was published in England in 1994 and got good reviews and was popular, but wasn’t released in the U.S. Eda has returned to writing in recent years. She has one book circulating among agents, “about murder! But it’s not a murder mystery”, and is at work on third. It’s also been suggested to her that she write a biography about her father and family. She lives in Los Angeles with her partner Jack Favere.

I asked Eda if she thought her father had any regrets in his very successful life. Without hesitation she said, “Cancer. He wanted to find the cure for cancer.”

In a sad irony, Paul A. Zahl passed away of prostate cancer in 1985, at the age of 75. At the National Geographic Society headquarters, they hung the flag at half mast.

## WEB WANDERINGS – BOTANICUS (WWW.BOTANICUS.ORG) AND THE *SPECIES PLANTARUM*

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Are you like me? Have you ever been curious about those early carnivorous plant citations, and maybe even wanted to look at the original source? I mean the EARLY ones? Well, now you can from the comfort of your own home. In my Web Wandering I came across a great find, Botanicus; a free to access web-based digital library of historical botanical literature scanned from the Missouri Botanical Garden Library.

I haven’t explored the full depth of Botanicus yet, but I did find *Species Plantarum* by Carl Linnaeus the father of modern taxonomy and plant nomenclature! So, when you see “*D. rotundifolia* L. 1753” in a text somewhere, now you can look at the original citation.

Published in 1753, the *Species Plantarum*, in two volumes, lists over 7,000 species including *Aldrovandra vesiculosa*, *Drosera* (*D. capensis*, *D. indica*, *D. rotundifolia*), *Nepenthes distillatoria*, *Pinguicula* (*P. alpina*, *P. lusitanica*, *P. villosa*, *P. vulgaris*), *Sarracenia* (*S. flava*, *S. purpurea*), and *Utricularia* (*U. bifida*, *U. caerulea*, *U. foliosa*, *U. gibba*, *U. minor*, *U. subulata*, *U. vulgaris*).

Have fun and go check out Botanicus!

